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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,192	05/11/2007	Heinz Florain	14219-117US1 P2003,0661 U	2141
26161	7590	07/11/2008	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			DOUGHERTY, THOMAS M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,192	Applicant(s) FLORAIN ET AL.	
	Examiner Thomas M. Dougherty	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 11-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>306, 207, 1207</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments filed 4/21/08 have been fully considered but they are not persuasive concerning the election/restriction requirement. The requirement is maintained for the reasons originally cited in the office action of 3/20/08.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (JP 2003-59758). Nakamura et al. show (fig. 1) a multilayer ceramic component comprising: a stack comprising ceramic layers (1) and electrode layers (2) interspersed among the ceramic layers (1), the electrode layers (2) containing copper (see page 2, col. 2, paragraph 4), the electrode layers (2) comprising first and second internal electrodes; first and second external contacts (3) on different sides of the stack, the first and second external contacts (3) containing copper (see NOVELTY section), the first and second external contacts (3) being substantially perpendicular to the ceramic layers (1) and electrode layers (2); wherein the first internal electrode (2) is connected to the first external contact (3) and the second internal electrode (also 2) is connected to the second external contact (3), the first and second internal electrodes (2) overlapping each other at a plane intersecting the stack; wherein in areas adjacent to boundaries between the first and second external contacts (3) and the ceramic layers (1), the first

and second external contacts (3) are not oxidized (see NOVELTY and ADVANTAGE sections) and the material comprising the ceramic layers (1) is not diminished; and wherein a bonding strength of the external contacts (3) to the stack exceeds 50N. Note that as Nakamura et al. show the claimed structural features, his device meets the requirements to achieve such a bonding strength. This feature is clearly a goal of the invention, and as Nakamura et al. show the claimed structural features, this goal is likewise met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (JP 2003-59758) in view of Rohr et al. (US 4,412,904). Given the invention of Nakamura et al. it is not clear that the first and second external contacts as well as the first and second internal electrodes contain a ceramic.

Rohr et al. teach use of a contact containing a ceramic. See col. 1, lines 14-20.

It would have been obvious to one having ordinary skill in the art to employ the ceramic in the contact and first and second internal electrodes of Nakamura et al. at the time of their invention since such employment results in a structure with “great thermal and chemical stability” at least, as Rohr et al. note at the cited place.

Claims 2-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (JP 2003-59758) in view of Omatsu (US 5,196,757). Given the invention of Nakamura et al. it is not clear that the first and second external contacts as well as the first and second internal electrodes contain a ceramic. While the ceramic layers comprise a perovskite ceramic (BATiO_3), ceramic having a general composition of ABO_3 (see page 50, column 5, last line) it is not ferroelectric.

Omatsu teaches use of internal electrodes containing a ceramic. See his ABSTRACT.

Omatsu further teaches that the ceramic comprises less than or equal to 50 m% of each of his electrodes. See claim 2 for example.

Omatsu further teaches that the ceramic comprises between 10m% and 50m% of his electrodes.

Omatsu teaches use of ceramic layers that comprise a ferroelectric perovskite ceramic having a general composition of ABO_3 . See col. 5, lines 24-31.

The perovskite ceramic is of a PZT type $\text{PB}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$. Again see col. 5, lines 24-31.

As the Applicants don't note any specific material in addition to the perovskite cited above, said perovskite of Omatsu is regarded as comprising ceramic green films that contain a thermohydrolytically degradable binding agent.

He doesn't note a ceramic component to his external electrodes.

It would have been obvious to one having ordinary skill in the art to employ the ceramic (with the percentage noted in his claim 2 of Omatsu), in the contact and in the

first and second internal electrodes of Nakamura et al. at the time of their invention as such use is taught by Omatsu since such employment results in a structure with significant bonding strength compared with conventional designs as Omatsu notes in the ABSTRACT.

Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (JP 2003-59758) in view of Omatsu (US 5,196,757). Given the combined invention of Nakamura et al. and Omatsu as discussed above, the ceramic particles do not have an average grain size of between 0.2 and 0.6 mm and the thickness of the external contacts is not explicitly given.

It would have been obvious to one having ordinary skill in the art to employ a grain size of between 0.2 and 0.6 and have a thickness of each of the first and second external contacts between 10 and 20 since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Additional art cited reads on aspects of the invention.

Direct inquiry to Examiner Dougherty at (571) 272-2022.

/T. M. D./

/Thomas M. Dougherty/

tmd

Primary Examiner, Art Unit 2834

May 27, 2008

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